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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/477,608 01/04/00 HILL

W IP-23

MMC2/0105

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AIR MAIL

EXAMINER

ADDISON, K

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 01/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/477,608

Applicant(s)

HILL, WOLFGANG

Examiner

Karen B Addison

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1-5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "Material with higher magnetizability and /or higher saturation flux density than a part of said soft magnetic body that is disposed more distant from said air gap, said part belonging to the same said magnetic circuit".

Claim Rejections - 35 USC § 103

3. Claim 1-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Hill (5818138) in view of Ferreira (5523635).

Hill disclose in fig. (1-5) Electric machine with at least one magnetic circuit and at least two structural groups that are moveable against each other (13,15) that are separated from each other by an air gap, and that contain at least one soft magnetic body each (3). Hill also disclose the soft magnetic body wherein at least one said soft magnetic body consists of electric sheet of variable sheet thickness and in the rotating machine said soft magnetic body is stacked in tangential direction and the thickness of said sheet increases as the radius increases. However hill does not disclose a soft-magnetic body

consisting a material with higher magnetizability and /or higher saturation flux density than a part of said soft body (cobalt alloy).

Ferreira disclose Fig. (2) an electric machine comprising a rotor and a stator wherein the rotor core is comprised of cobalt iron lamination (col.5 line24-27).

However, Ferreira dose not discloses the soft magnetic body with variable sheet thickness. Therefore it would have been obvious to one having ordinary skill in the art to use colbalt alloy in electric machine of hill to maximize the power density of the stator and the rotor.

Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Hill in view of Ferreira as applied to claims 1-5 above and further in view of Muller (5909072) and Wieseman (2,655,613).

As seen in paragraph number 3 above, Hill discloses a electric machine and Ferreira discloses soft magnetic body comprising cobalt alloy. However, Neither Hill nor Ferreira discloses two magnetic units that consist of a spooled pole segment and two non-spooled half pole segments.

Muller discloses in fig. (2) spooled pole segment and two non-spooled half pole segments, and said half pole segments abutting at least one pole segment in the yoke area in order to generate a phase offset between adjacent units. However Muller dose not show the coil place upon the poles.

Wieseman teaches in fig.(1) how to mount a coil upon a pole which becomes a permanent part of the rotor. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the stator of Hill and the laminated material (cobalt alloy) of Ferreira with the rotor of Muller and the teaching of Wieseman (mounting of the coil) to obtain a high magnetizability.

Allowable Subject Matter

4. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen B Addison whose telephone number is 703-306-5855. The examiner can normally be reached on 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1317. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0956 for regular communications and 703-308-0956 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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KBA
January 2, 2001


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